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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------|----------------|------------|------|---------------|
| 科目ナンバリング                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                       | U-LAS70 10002 SE50 |           |                |            |      |               |
| 授業科目名<br><英訳>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ILAS Seminar-E2 :Technology and Modern Society - A Historical Perspective（日本の工業技術史と現代社会）<br>ILAS Seminar-E2 :Technology and Modern Society - A Historical Perspective |                    |           | 担当者所属<br>職名・氏名 | 京都大学<br>未定 |      |               |
| 群                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 少人数群                                                                                                                                                                  | 単位数                | 2単位       | 週コマ数           | 1コマ        | 授業形態 | ゼミナール（対面授業科目） |
| 開講年度・<br>開講期                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2024・後期                                                                                                                                                               | 受講定員<br>(1回生定員)    | 10 (10) 人 | 配当学年           | 主として1回生    | 対象学生 | 全学向           |
| 曜時限                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 金5                                                                                                                                                                    | 教室                 | 1共32      |                |            | 使用言語 | 英語            |
| キーワード                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Technology / Semiconductor industry / Modern society                                                                                                                  |                    |           |                |            |      |               |
| [授業の概要・目的]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                       |                    |           |                |            |      |               |
| We can describe human history in terms of the evolution of technology and how it shaped society. The course will discuss the evolution of different technologies and their impacts on society. The course will also try to predict the future, and what kind of new technologies may come. This course aims at developing analyzing ability by surveying the evolution of a particular technology and the impact on society. The students will give presentations on several topics. The course will be aiming at having the students to learn from each other, by presenting, commenting, and discussing the results.                                                                                                                                                     |                                                                                                                                                                       |                    |           |                |            |      |               |
| [到達目標]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                       |                    |           |                |            |      |               |
| 1. To develop the ability to identify how art and technology contribute to modern society<br>2. Realize the meaning of active learning and learning through discussion<br>3. Understand the evolution of technology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                       |                    |           |                |            |      |               |
| [授業計画と内容]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                       |                    |           |                |            |      |               |
| 1. Introduction [1 week]<br>2. Interaction between technology and society [3 weeks]<br>2-a) Impact of the industrial revolution<br>2-b) Impact of the digital revolution<br>2-c) Impact of AI and robotics<br>2-d) What is the role of humans in the future?<br>3. Evolution of user interfaces: from simple to automated [3 weeks]<br>3-a) Mechanical interface<br>3-b) Command-line interface<br>3-c) Graphical user interface<br>3-d) Touch-screen<br>3-e) Voice and gesture<br>3-f) Impact on society<br>4. Evolution of storage devices: from large wardrobe to tiny objects [3 weeks]<br>4-a) Magnetic drums<br>4-b) Floppy disks<br>4-c) Hard disks<br>4-d) Solid-state drives (SSD)<br>4-e) Flash drives<br>4-f) Cutting-edge technology<br>4-g) Impact on society |                                                                                                                                                                       |                    |           |                |            |      |               |
| ILAS Seminar-E2 :Technology and Modern Society - A Historical Perspective（日本の工業技術史と現代社会）(2)へ続く↓                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                       |                    |           |                |            |      |               |

5. Evolution of computing devices: from mechanical to electrical [3 weeks]

5-a) Mechanical switch

5-b) Bipolar transistor

5-c) MOS transistor

5-d) CMOS

5-e) Cutting-edge technology

5-f) Impact on society

6. Predicting the future [2 weeks]

6-a) New technologies

6-b) Future world

**[履修要件]**

特になし

**[成績評価の方法・観点]**

Assignments (50%) and term-end report (50%)

**[教科書]**

未定

Handouts will be given and online materials will be announced in the class.

**[参考書等]**

(参考書)

授業中に紹介する

**[授業外学修（予習・復習）等]**

The students are encouraged to actively participate in the discussions and share their opinions.

**[その他（オフィスアワー等）]**

Questions are always welcome. Appointments should be made by e-mail.